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Equatorward large-scale travelling ionospheric disturbances of high latitude origin during quiet conditions

The observations of large-scale travelling ionospheric disturbances (TIDs) originating from high latitude, and crossing the equator into the other hemisphere in the African-European sector, during geomagnetically quiet conditions within the period of 2010-2018. For each month, the four international geomagnetically quiet days were selected. The Global Navigation Satellite Systems (GNSS) total electron content (TEC) data were used to obtain the two dimensional (2-D) TEC residuals. We have identified 7 interhemispheric equatorward TIDs out of 384 days that were analysed with most of them originating from the southern hemisphere. TIDs propagation velocities and periods are in the range of 270-322 m/s and 48-100 minutes. Observations of the 4.3 μm brightness temperature (BT) from the Atmospheric Infrared Sounder (AIRS) instrument on board the NASA Aqua satellite point to the likely sources of these TIDs as AGWs of troposphere-stratosphere origin.

Apply to be considered for a student ; award (Yes / No)?

Yes

Level for award;(Hons, MSc, PhD, N/A)?

PhD

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